

30

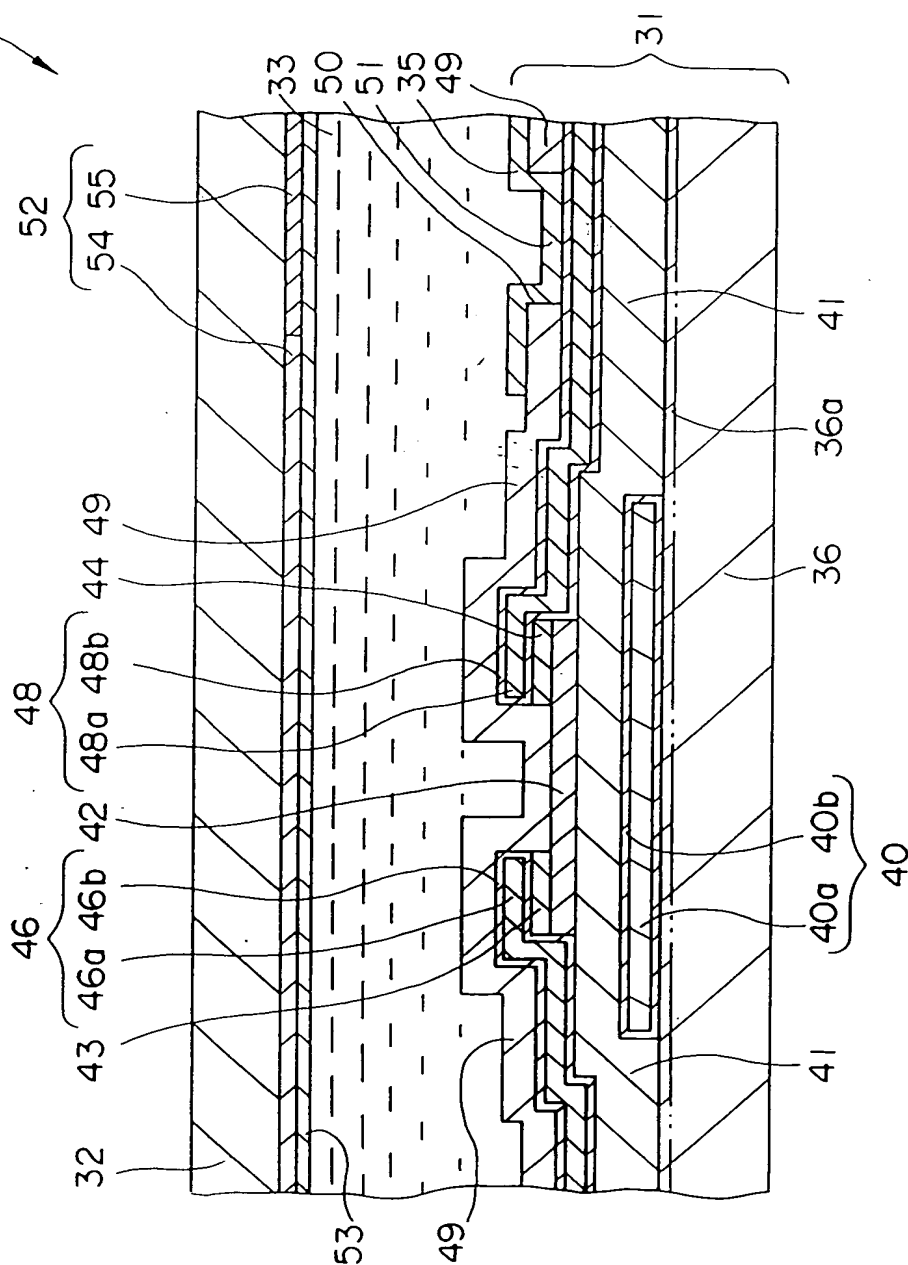


FIG. 2

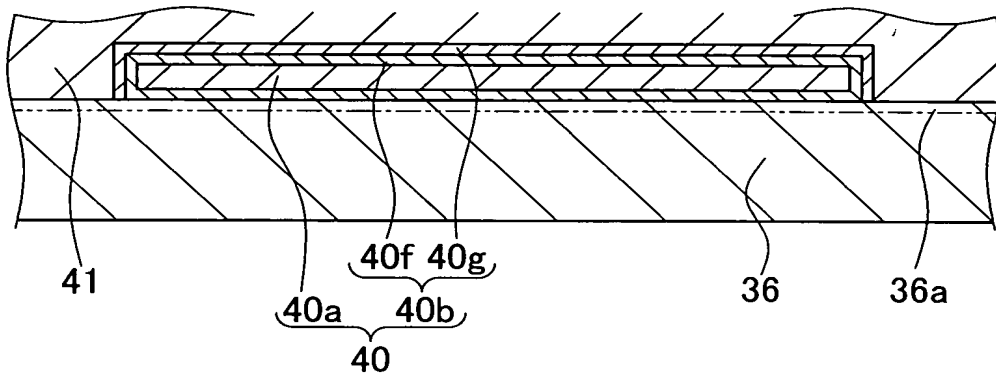


FIG. 3

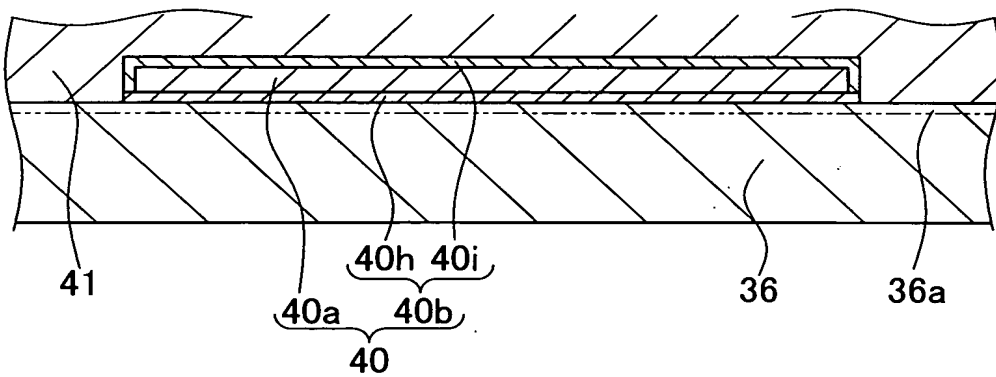


FIG. 7A

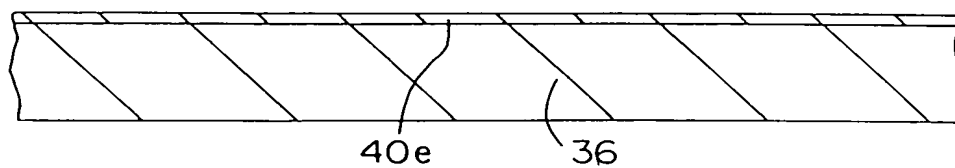


FIG. 7B

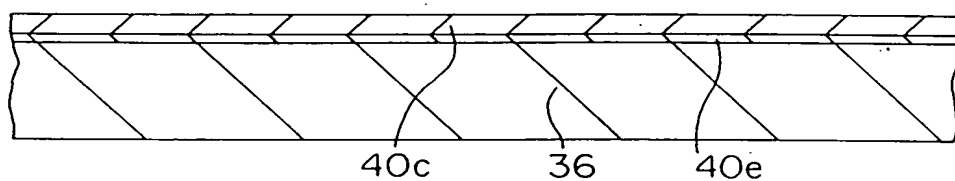


FIG. 7C

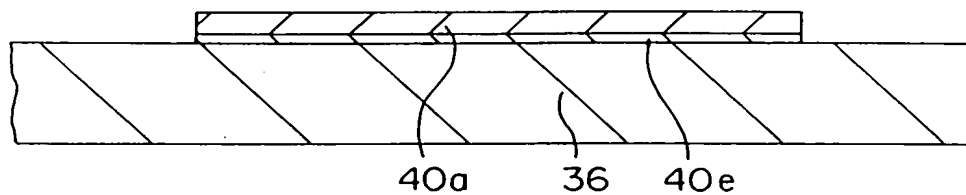


FIG. 7D

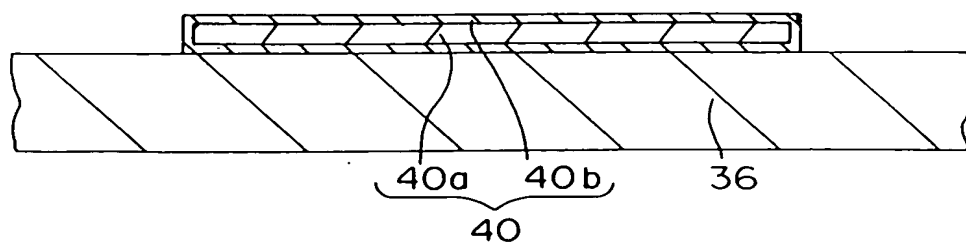


FIG. 8A

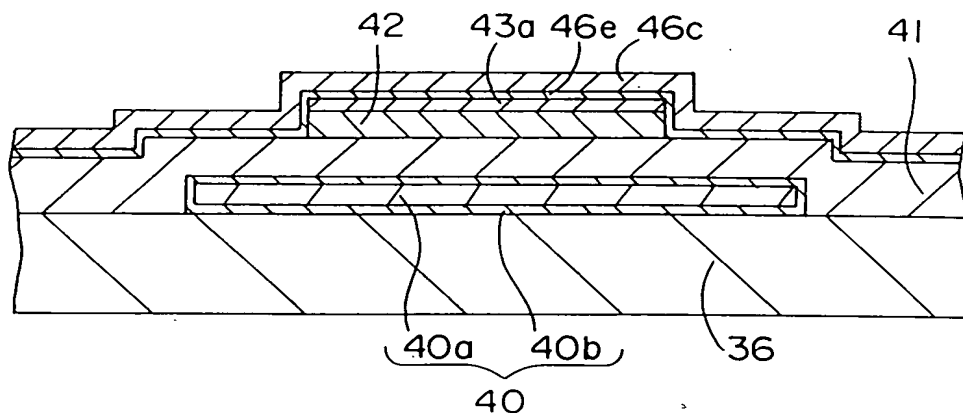


FIG. 8B

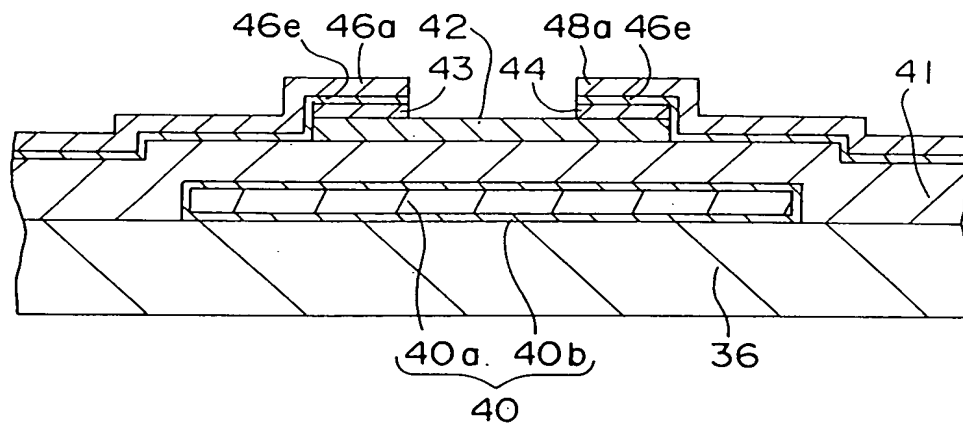
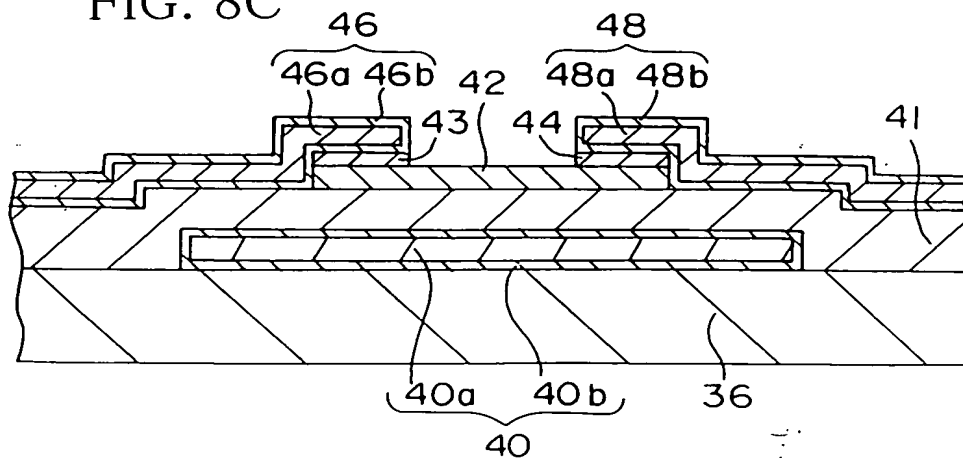


FIG. 8C



30a

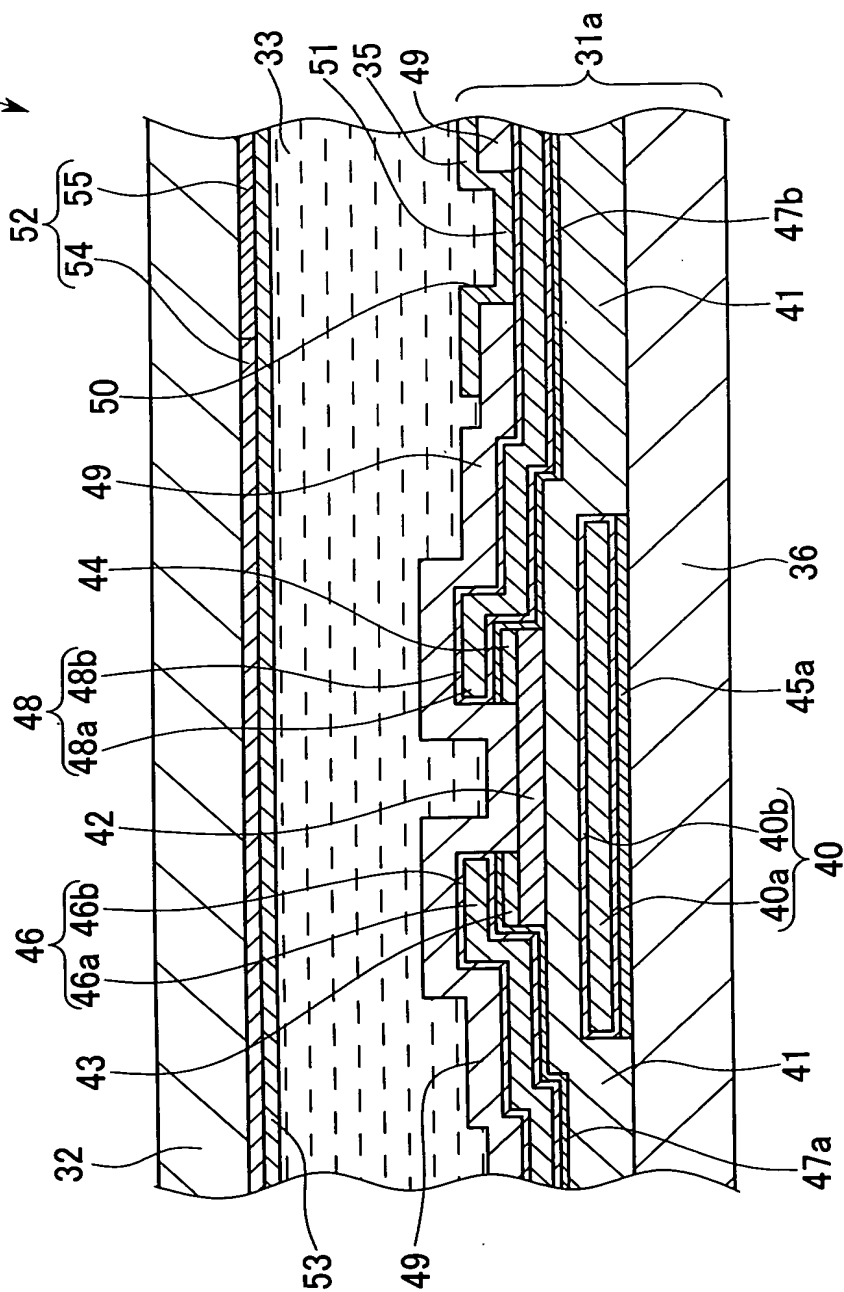


FIG. 10A

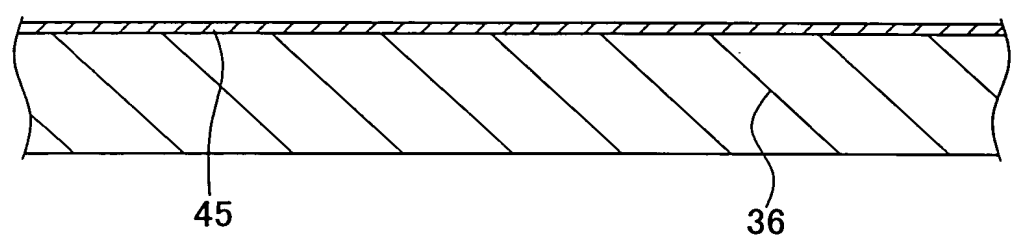


FIG. 10B

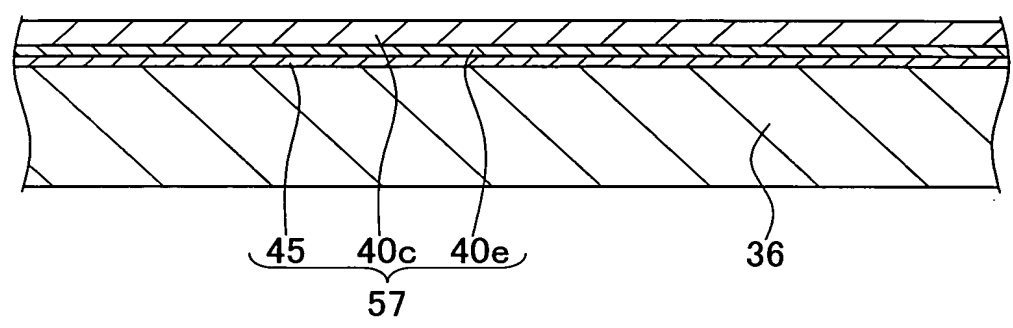


FIG. 10C

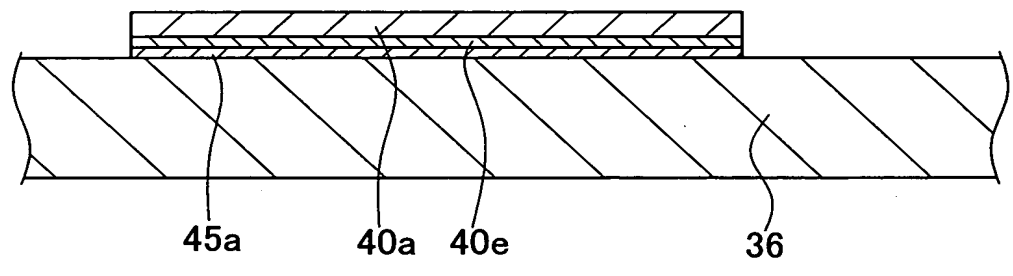
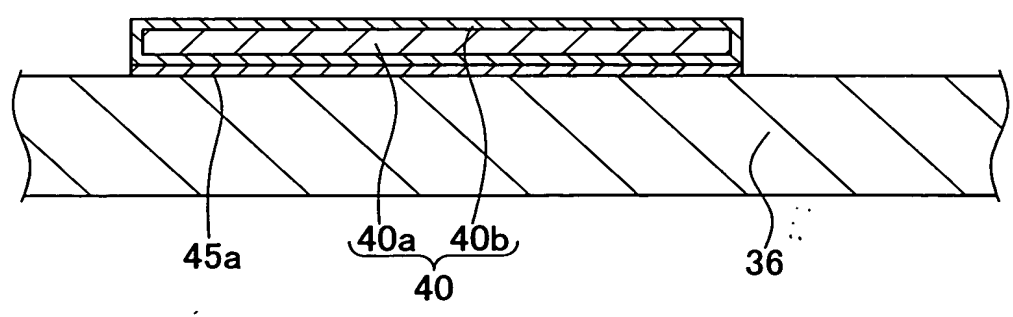


FIG. 10D



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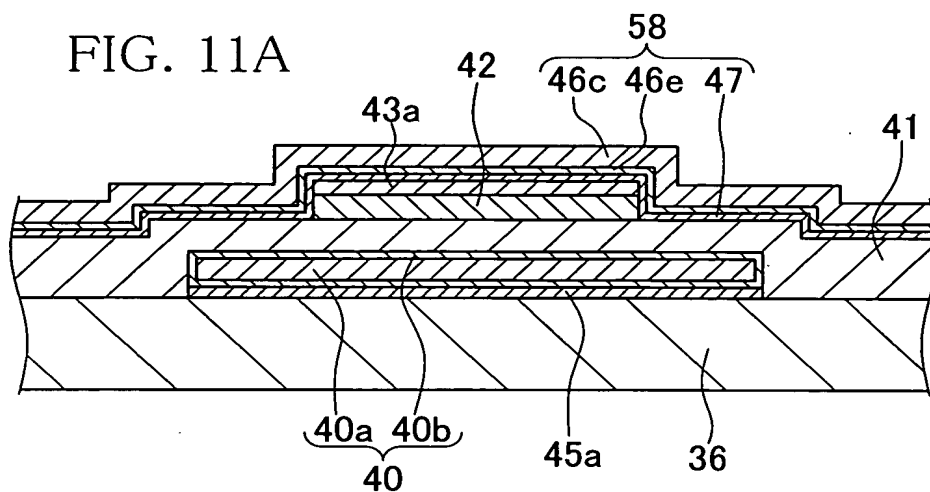


FIG. 11B

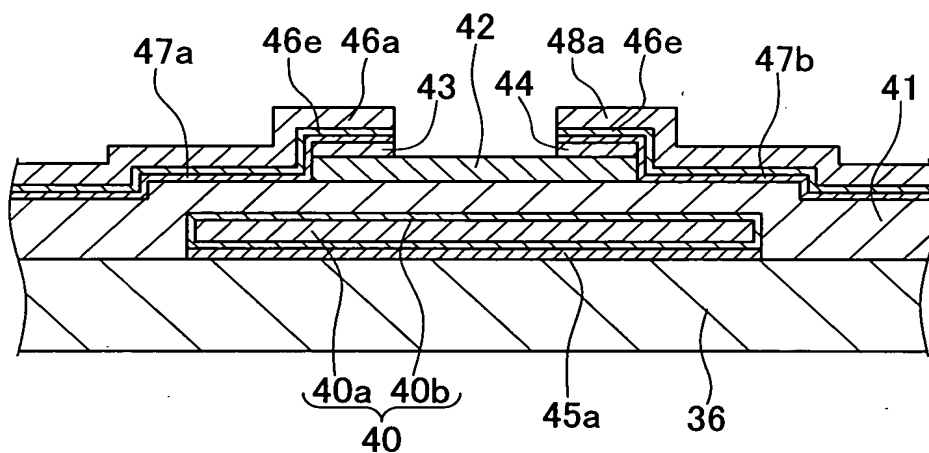


FIG. 11C

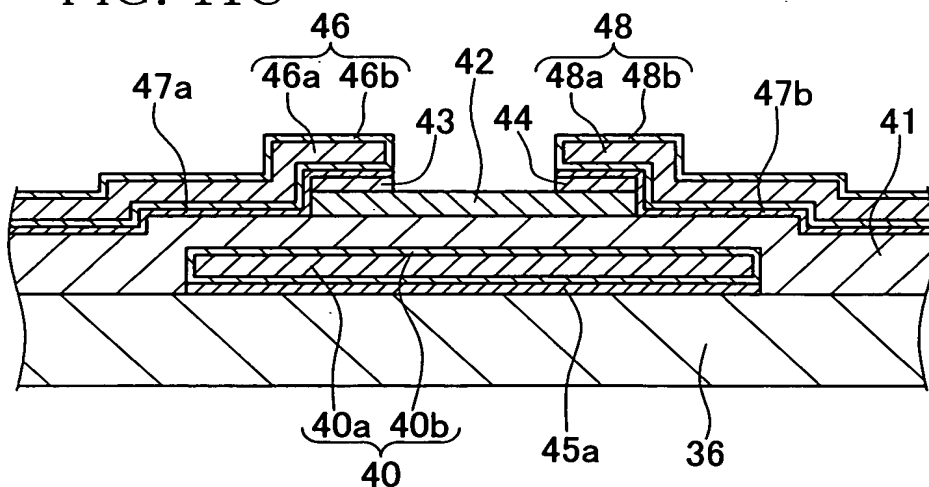


FIG. 12

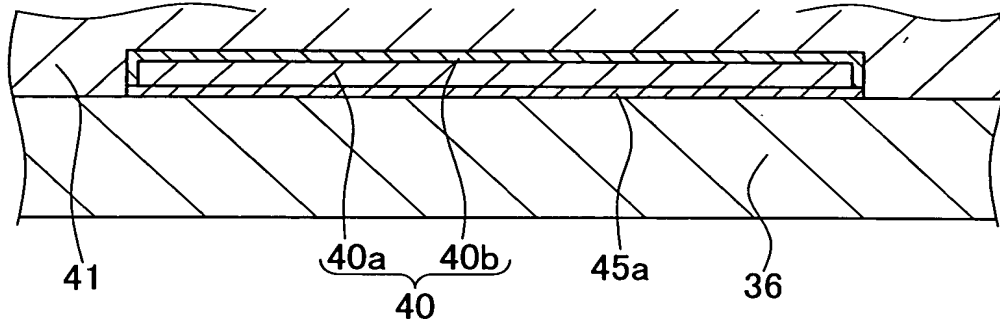


FIG. 13

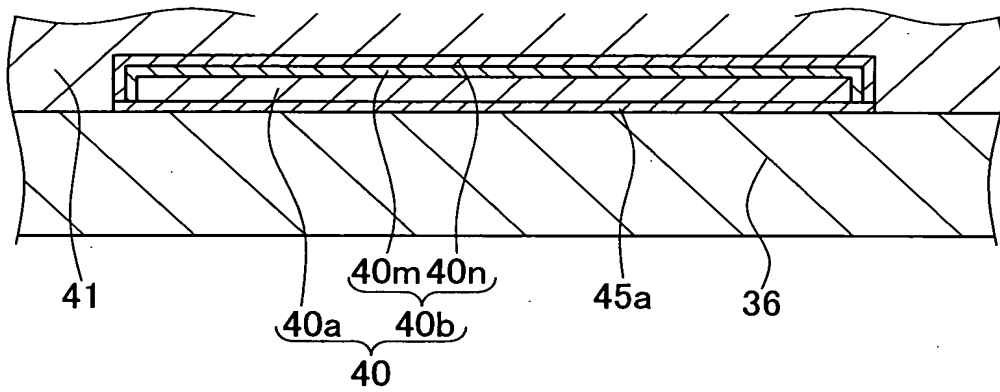
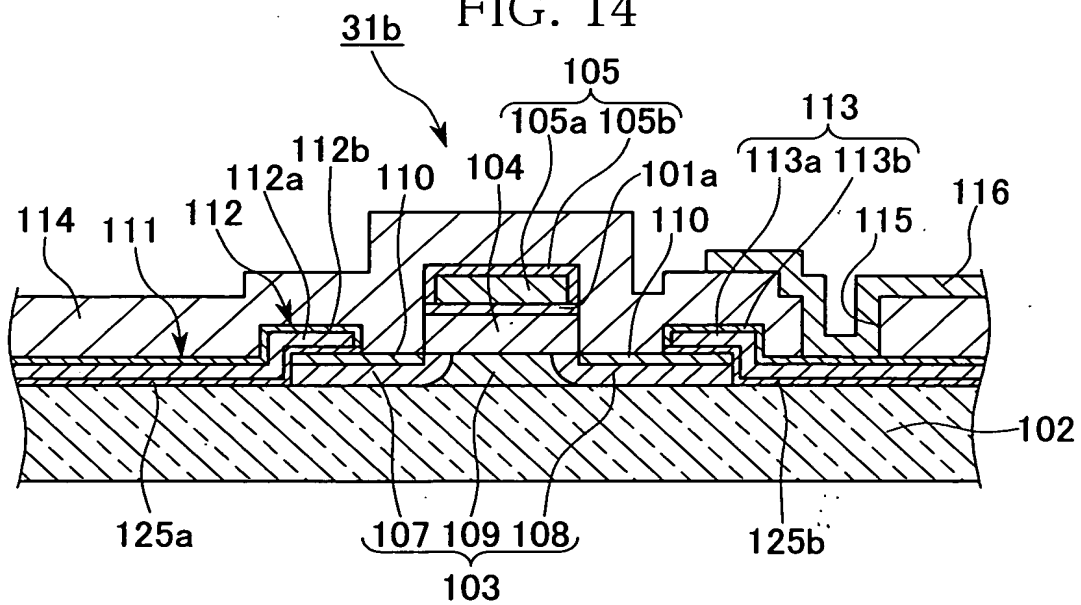


FIG. 14



007090" 52555560

FIG. 15

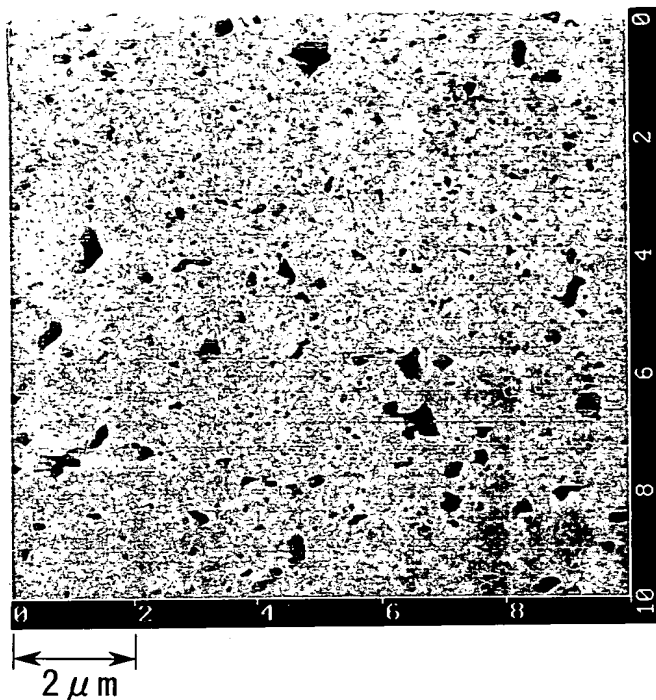


FIG. 16

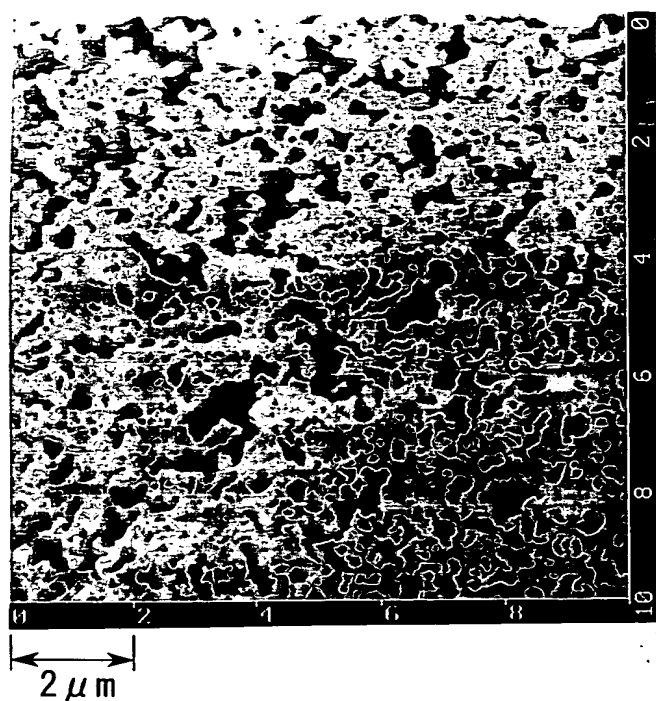
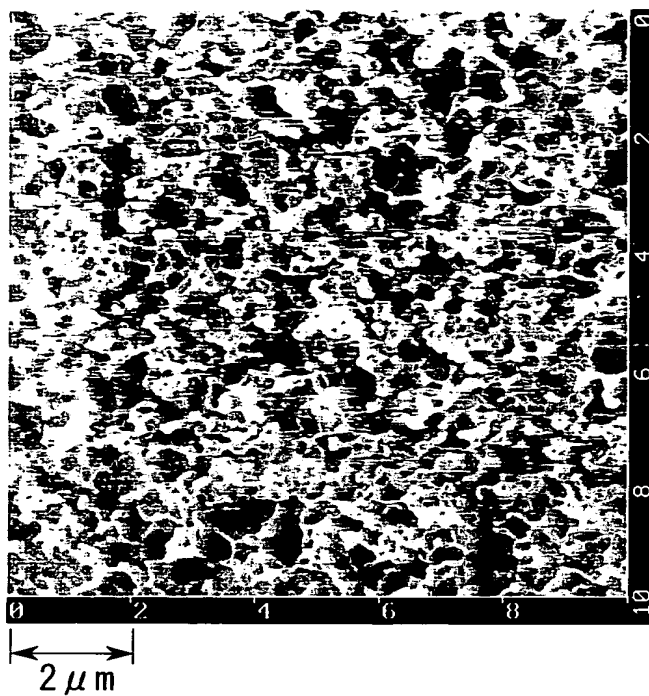


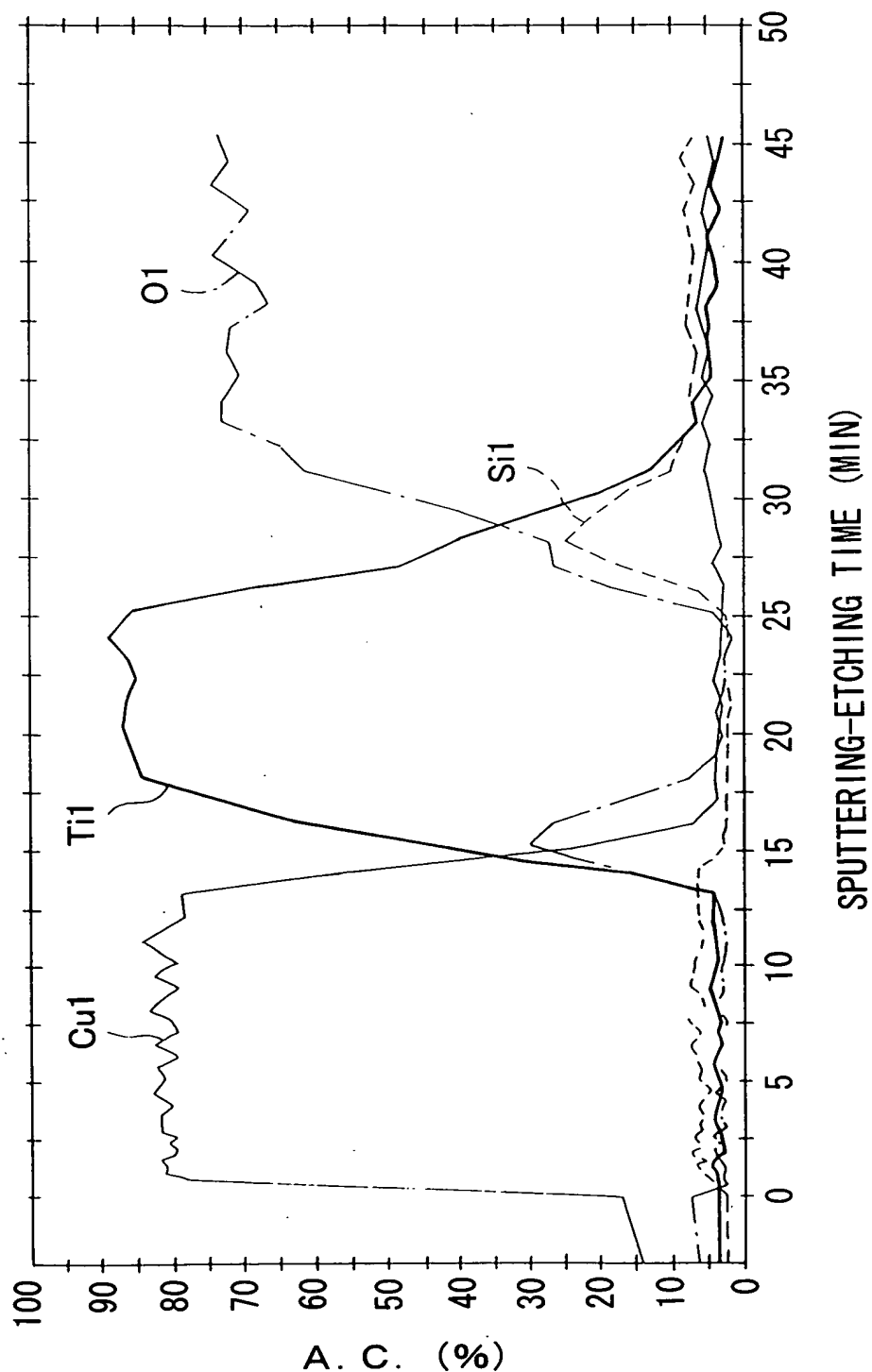
FIG. 17



00T090: 9295560

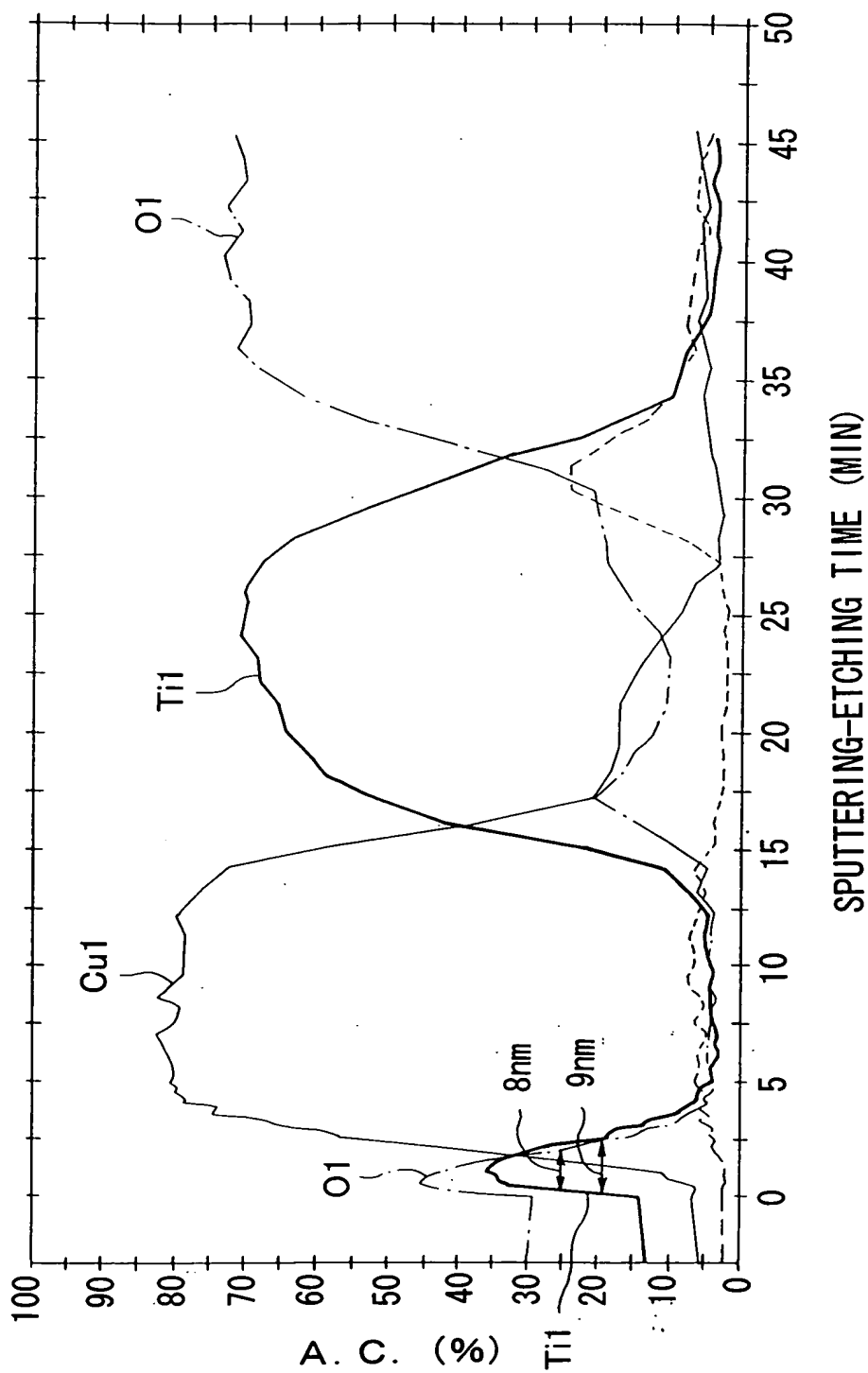
007050" 52333360

FIG. 18



001030-3293360

FIG. 19



007050" 52955560

FIG. 20

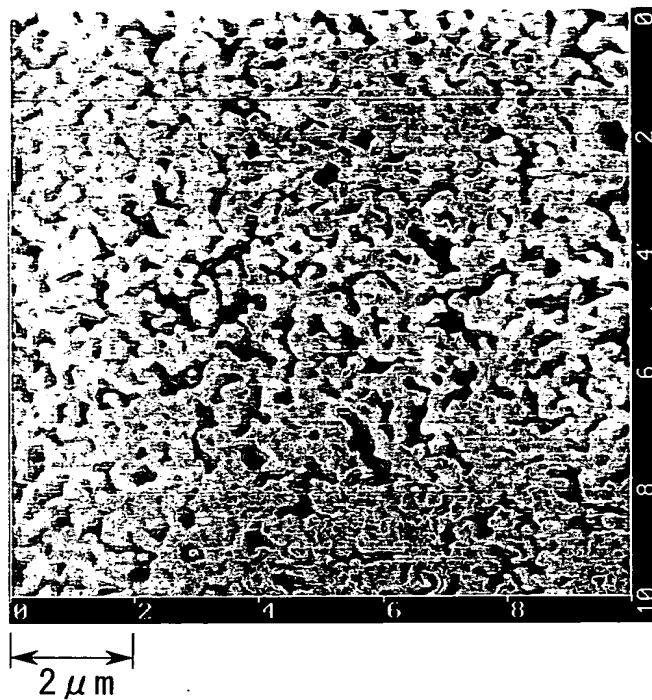


FIG. 21

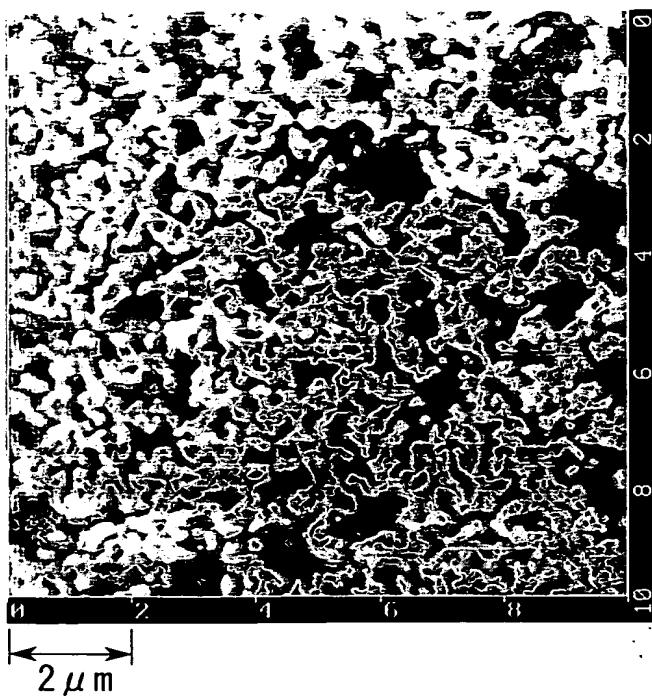
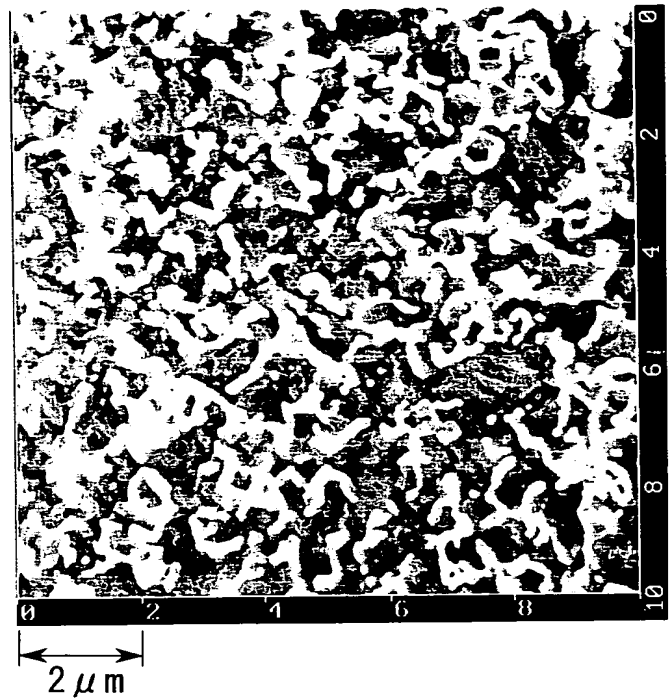


FIG. 22



001050-52355560

001090-00000000

FIG. 23

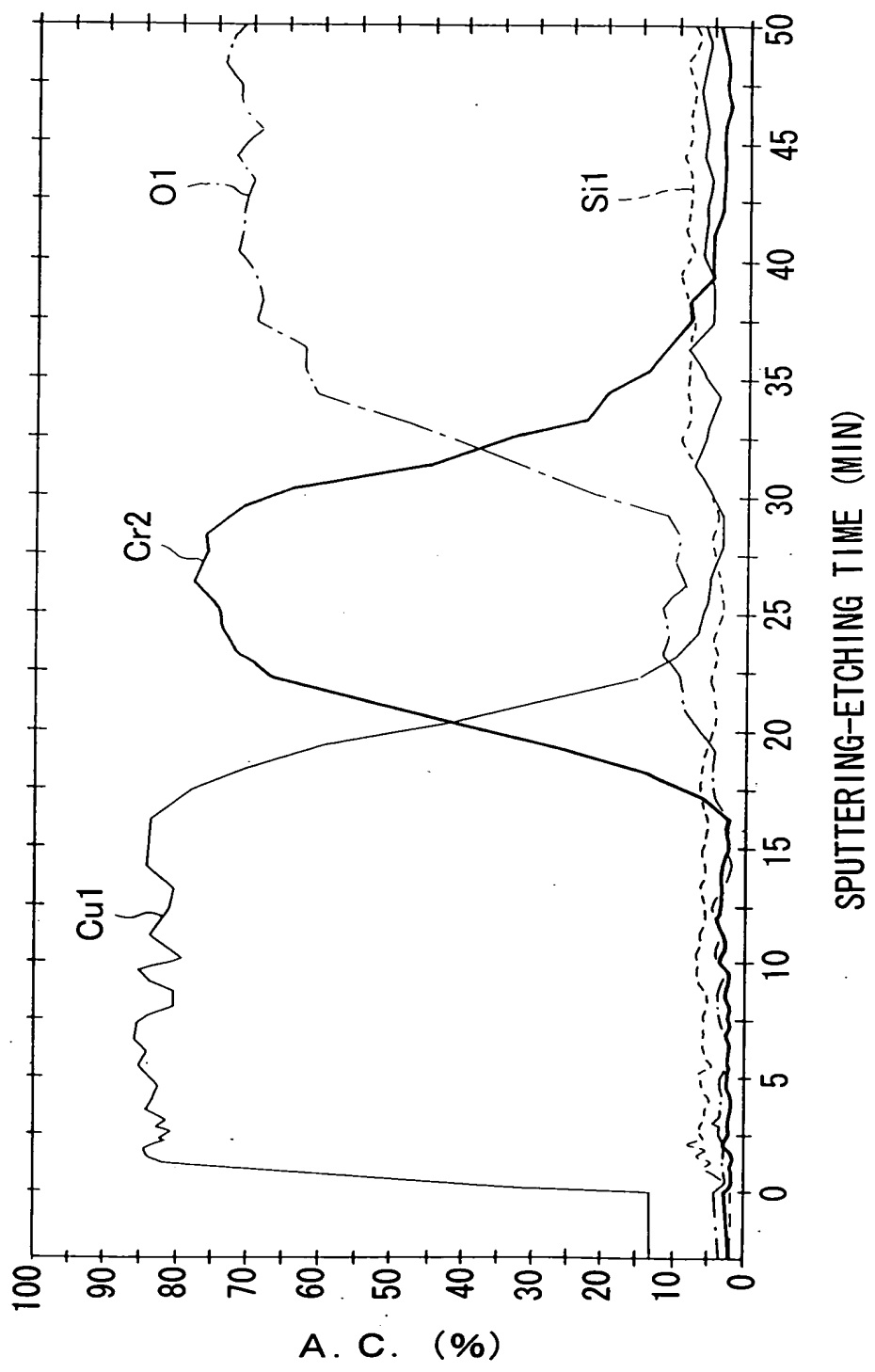


FIG. 24

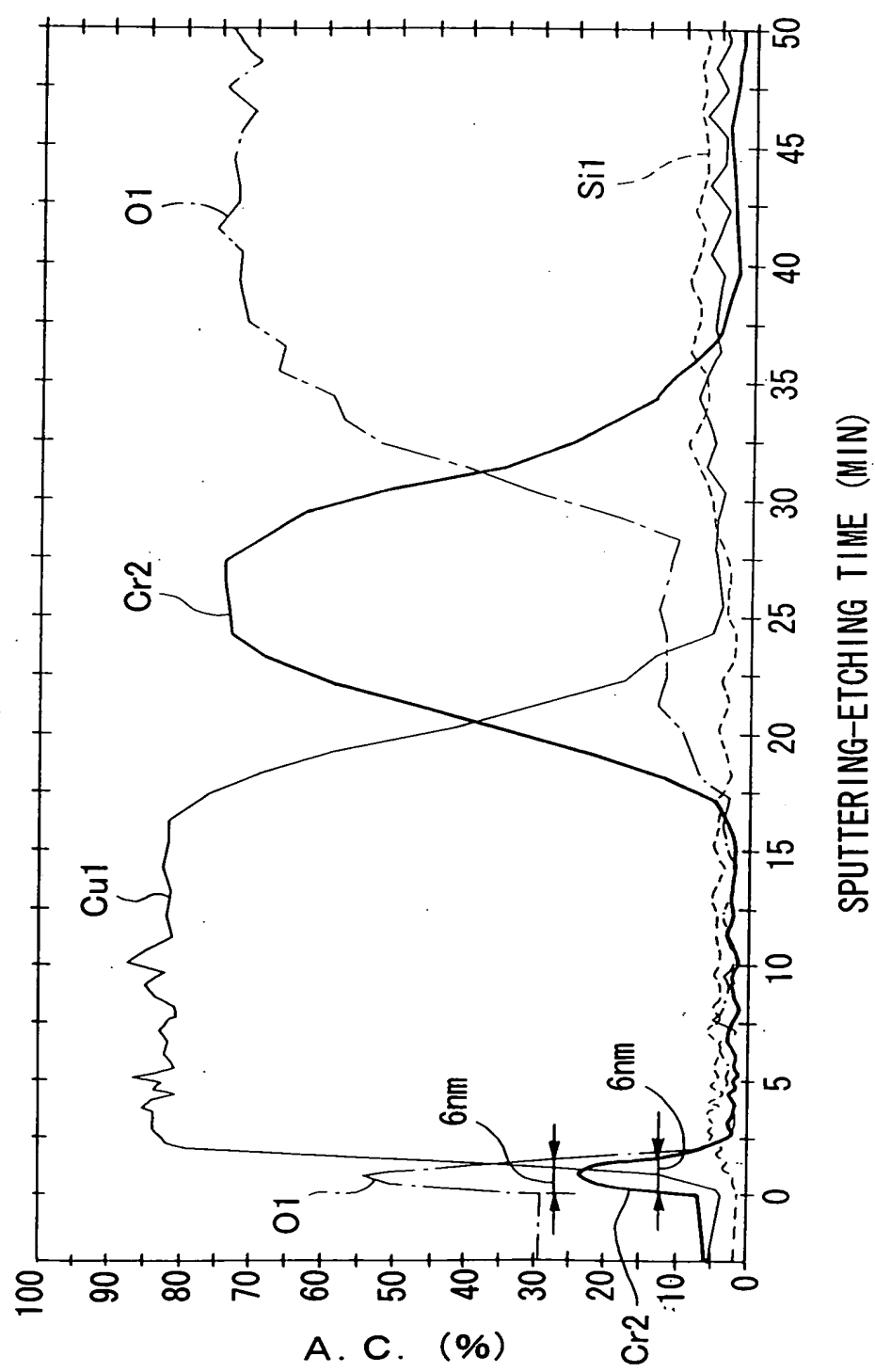
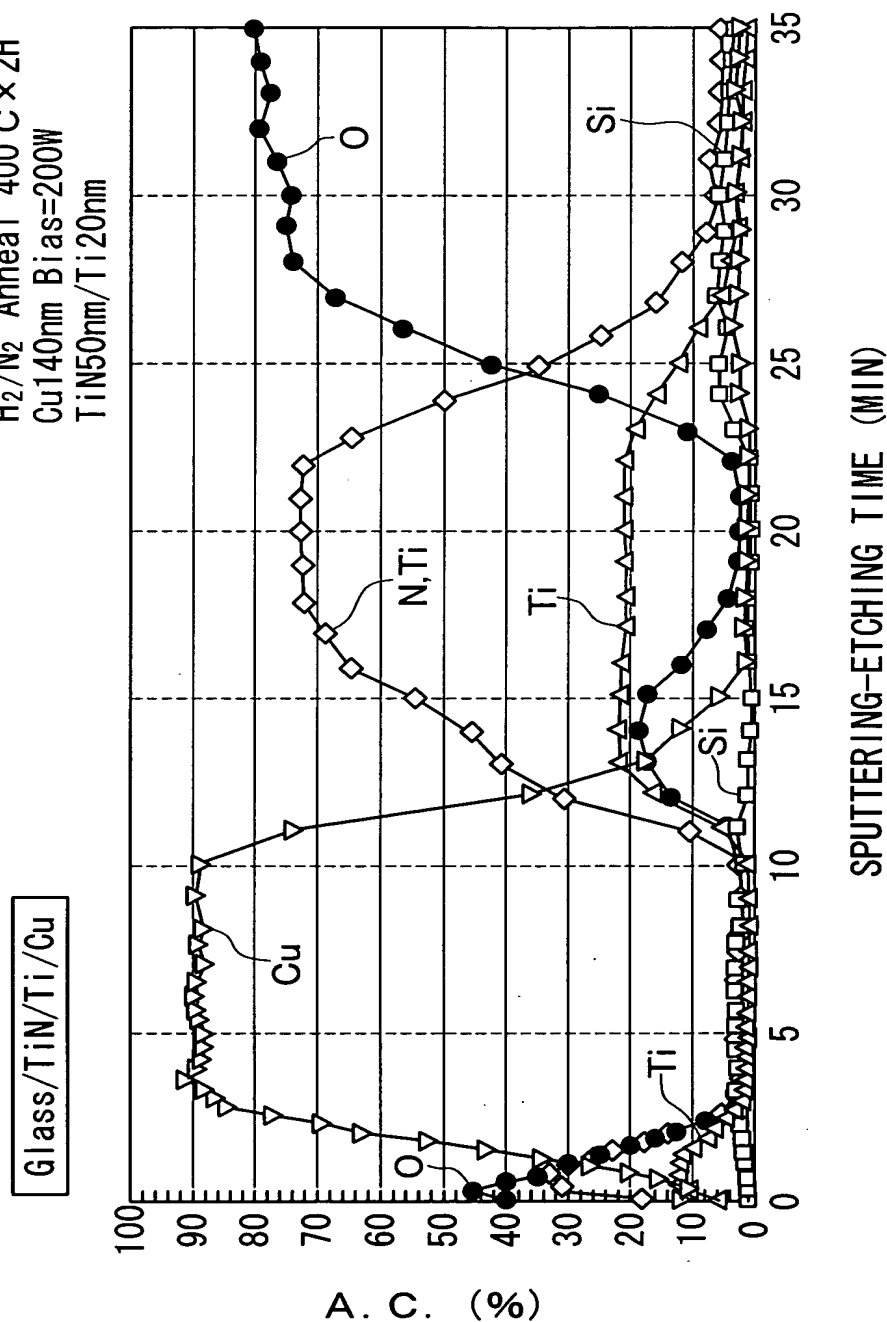


FIG. 25

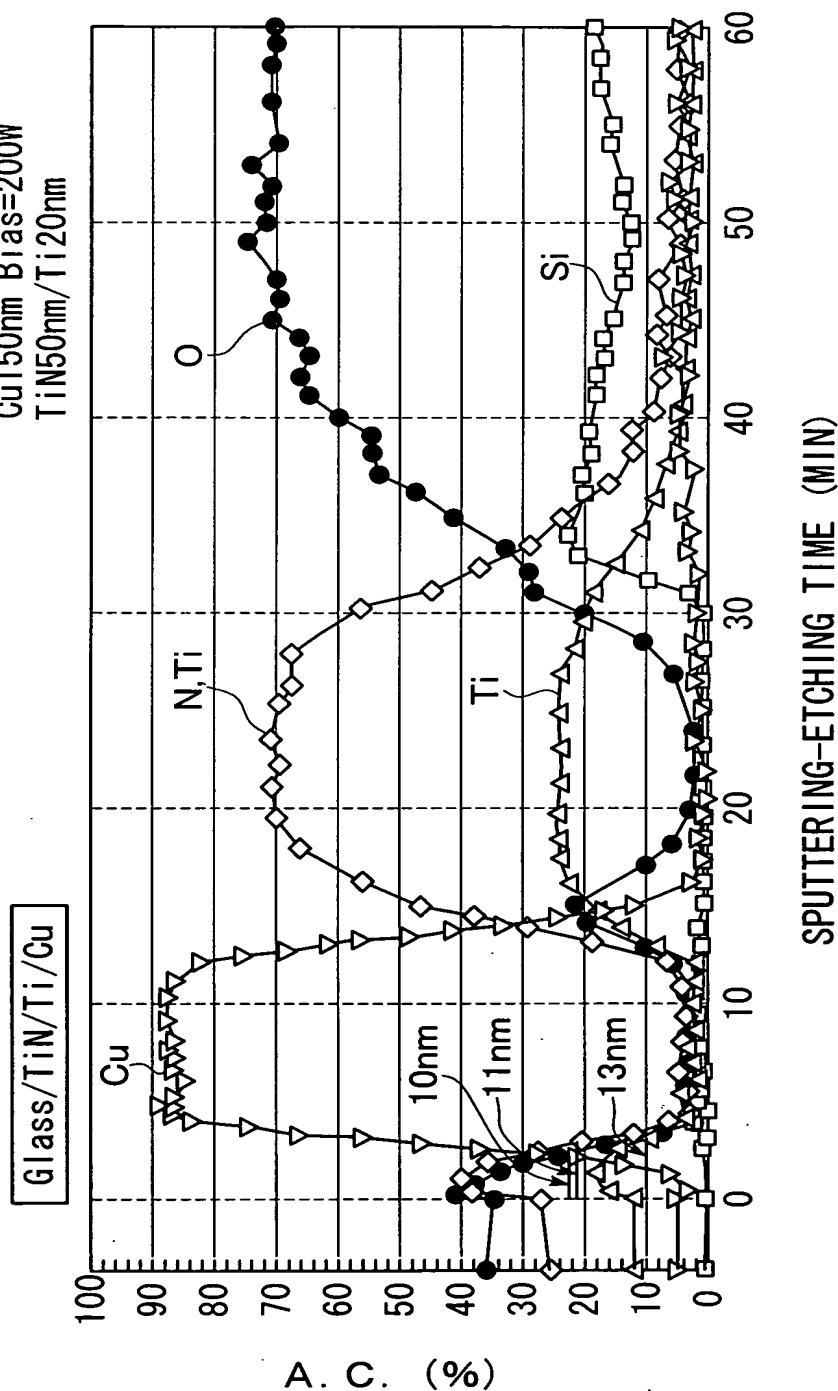
H₂/N₂ Anneal 400°C×2H
Cu140nm Bias=200W
TiN50nm/Ti20nm



001090-3295360

FIG. 26

H₂/N₂ Anneal 500°C x 2H
Cu150nm Bias=200W
TiN50nm/Ti20nm

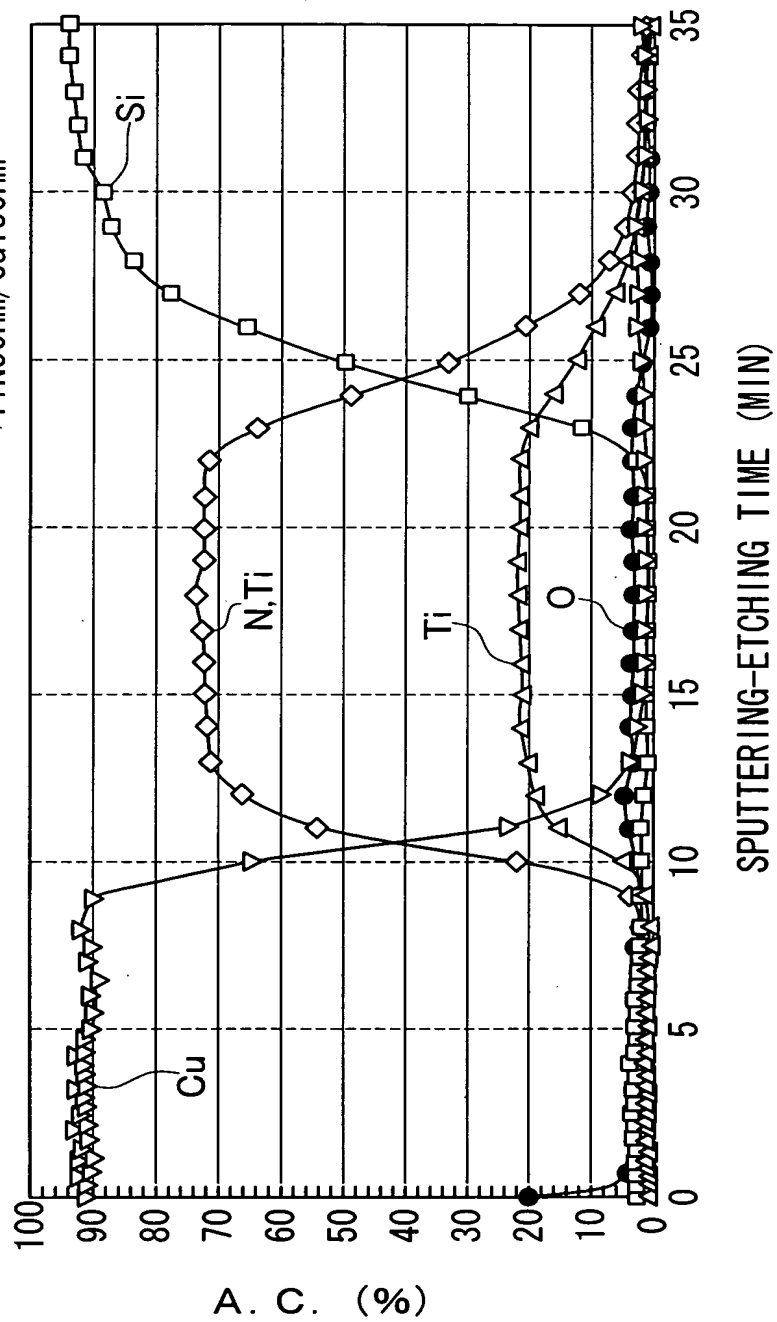


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FIG. 27

H₂/N₂ Anneal 500°C x 2H
Cu Bias=200W
TiN50nm/Cu150nm

i-Si/n+Si/TiN/Cu



The graph plots the ratio R/R (in) on the y-axis (0 to 3) against Annealing Temperature ($^{\circ}\text{C}$) on the x-axis (0 to 600). Five data series are shown, all starting at approximately 1.2 at 0 $^{\circ}\text{C}$. Specimen 5 (Ti, inverted triangles) shows a significant increase to ~2.2 at 500 $^{\circ}\text{C}$ before decreasing. Specimens 6 (Cr, squares), 7 (Mo, triangles), 4 (TiN, diamonds), and 8 (TiN/Ti, circles) all remain relatively stable, ending between 1.0 and 1.2 at 600 $^{\circ}\text{C}$.

Annealing Temperature ($^{\circ}\text{C}$)	Ti Specimen 5 (R/R)	Cr Specimen 6 (R/R)	Mo Specimen 7 (R/R)	TiN Specimen 4 (R/R)	TiN/Ti Specimen 8 (R/R)
0	1.2	1.2	1.2	1.2	1.2
100	1.2	1.2	1.2	1.2	1.2
200	1.2	1.2	1.2	1.2	1.2
300	1.2	1.2	1.2	1.2	1.2
400	1.8	1.1	1.1	1.1	1.1
500	2.2	1.1	1.1	1.1	1.1
600	1.8	1.0	1.0	1.0	1.0

FIG. 29

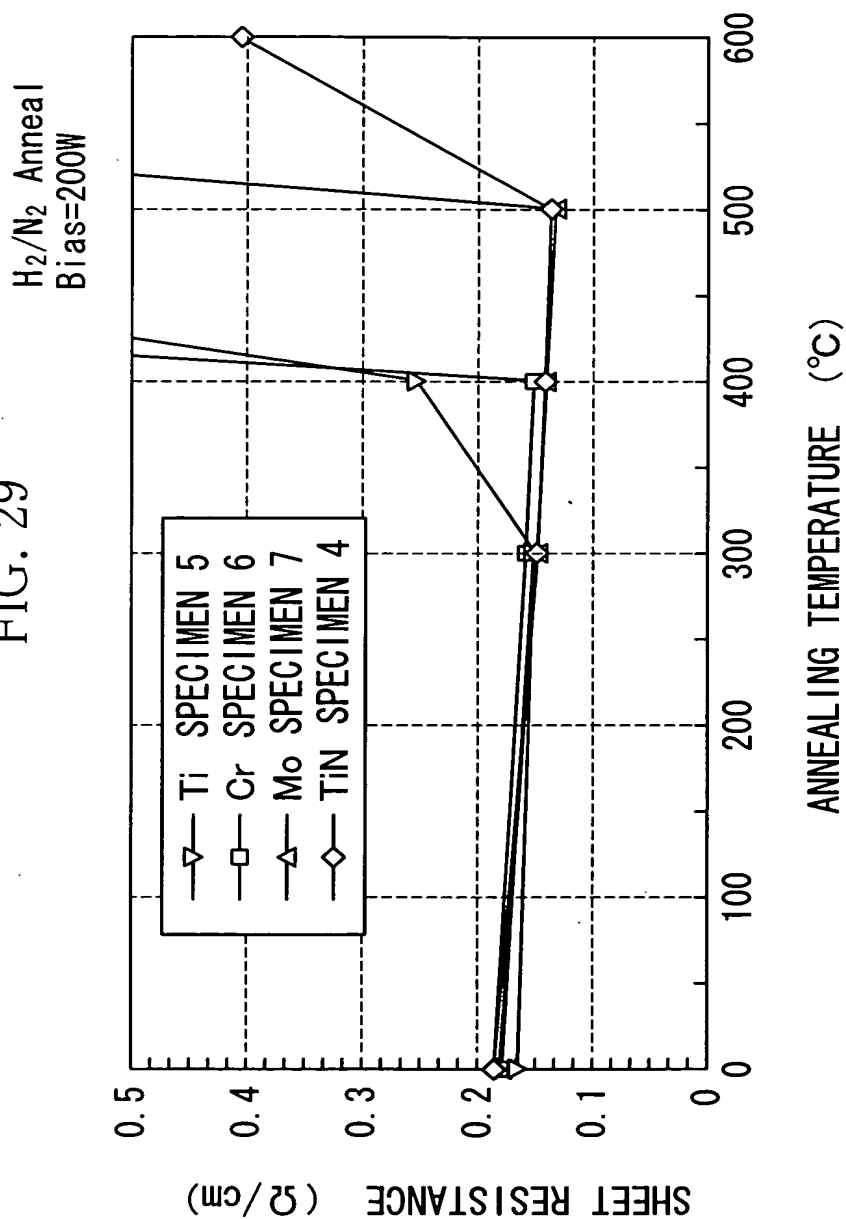


FIG. 30

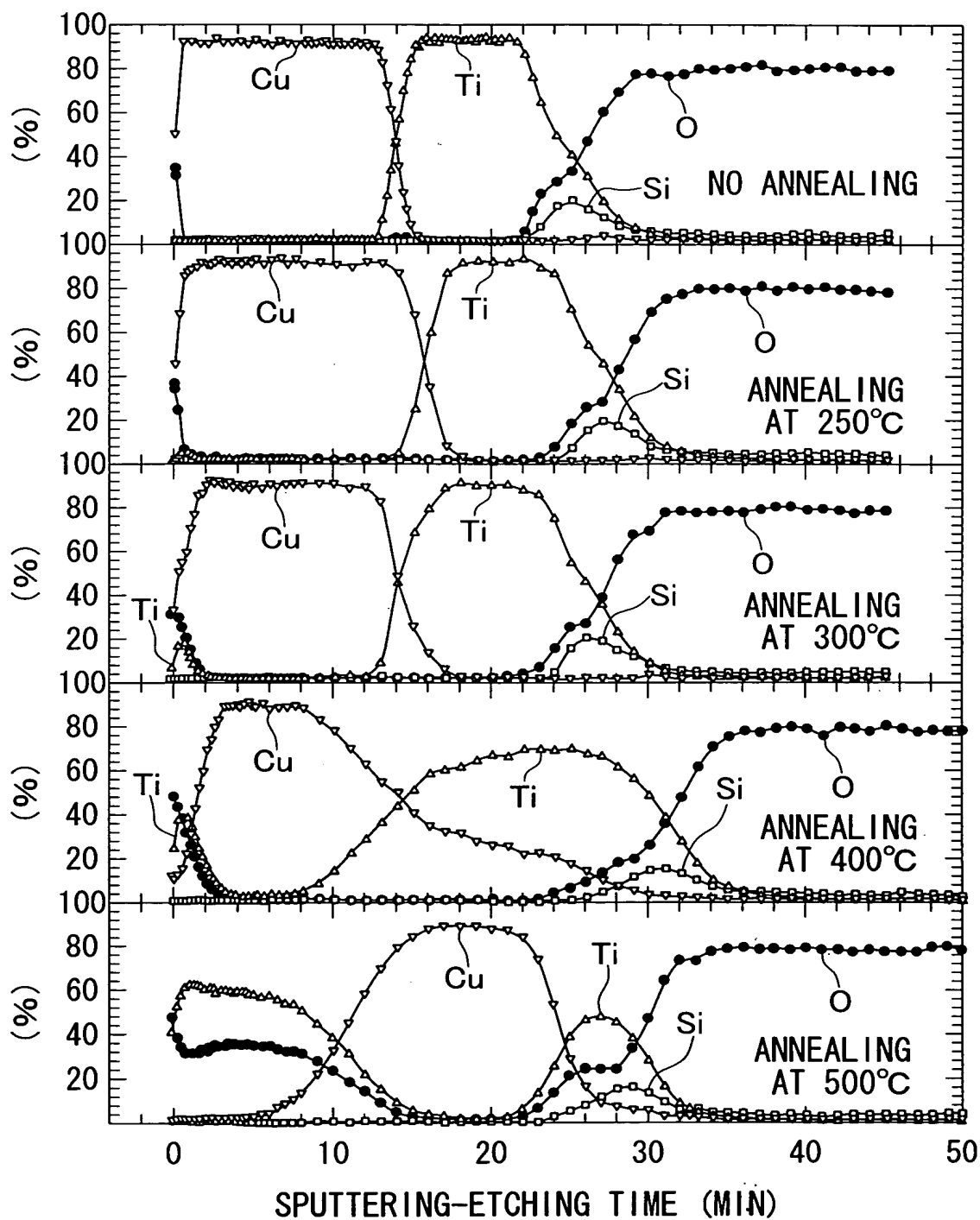
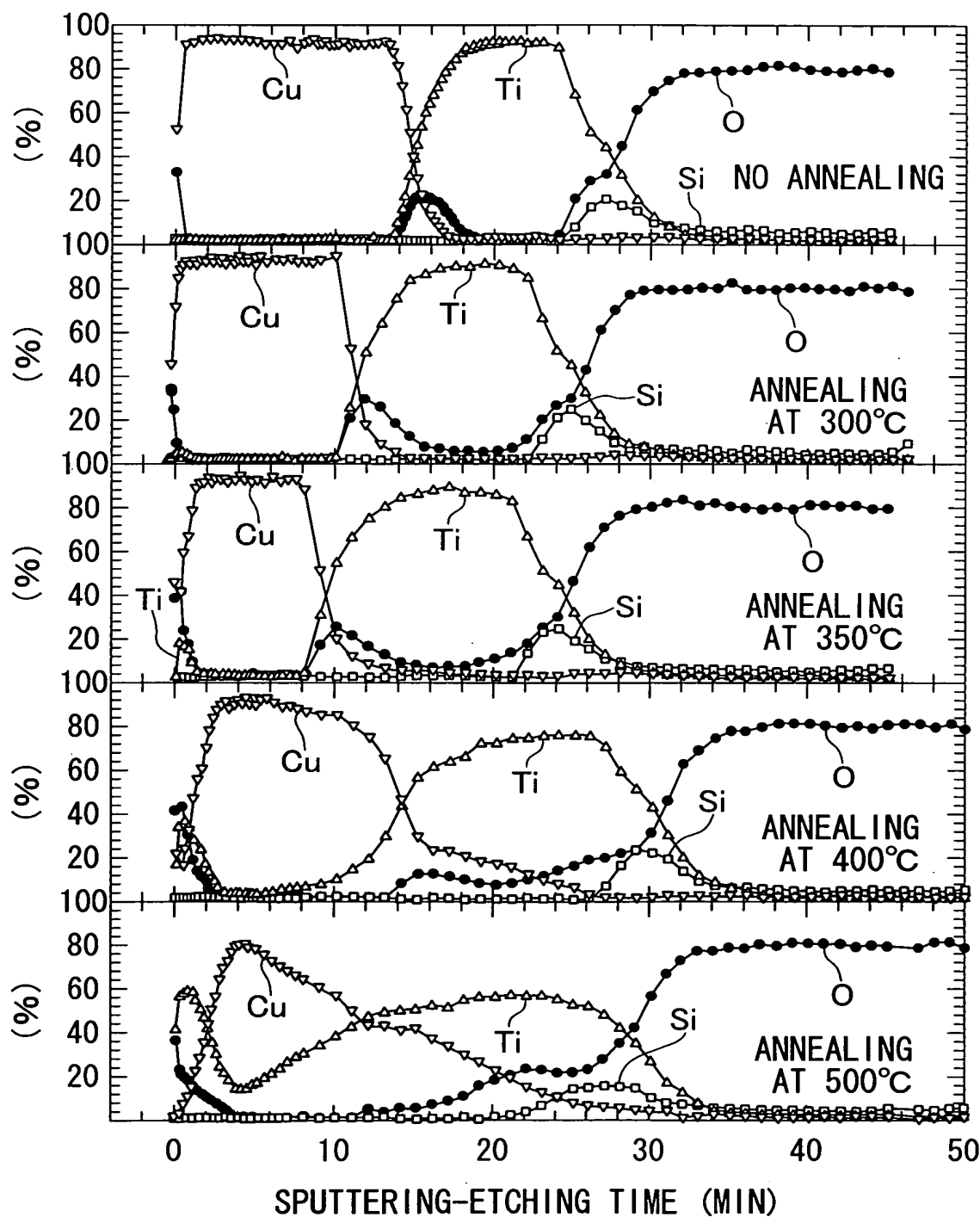


FIG. 31



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FIG. 32

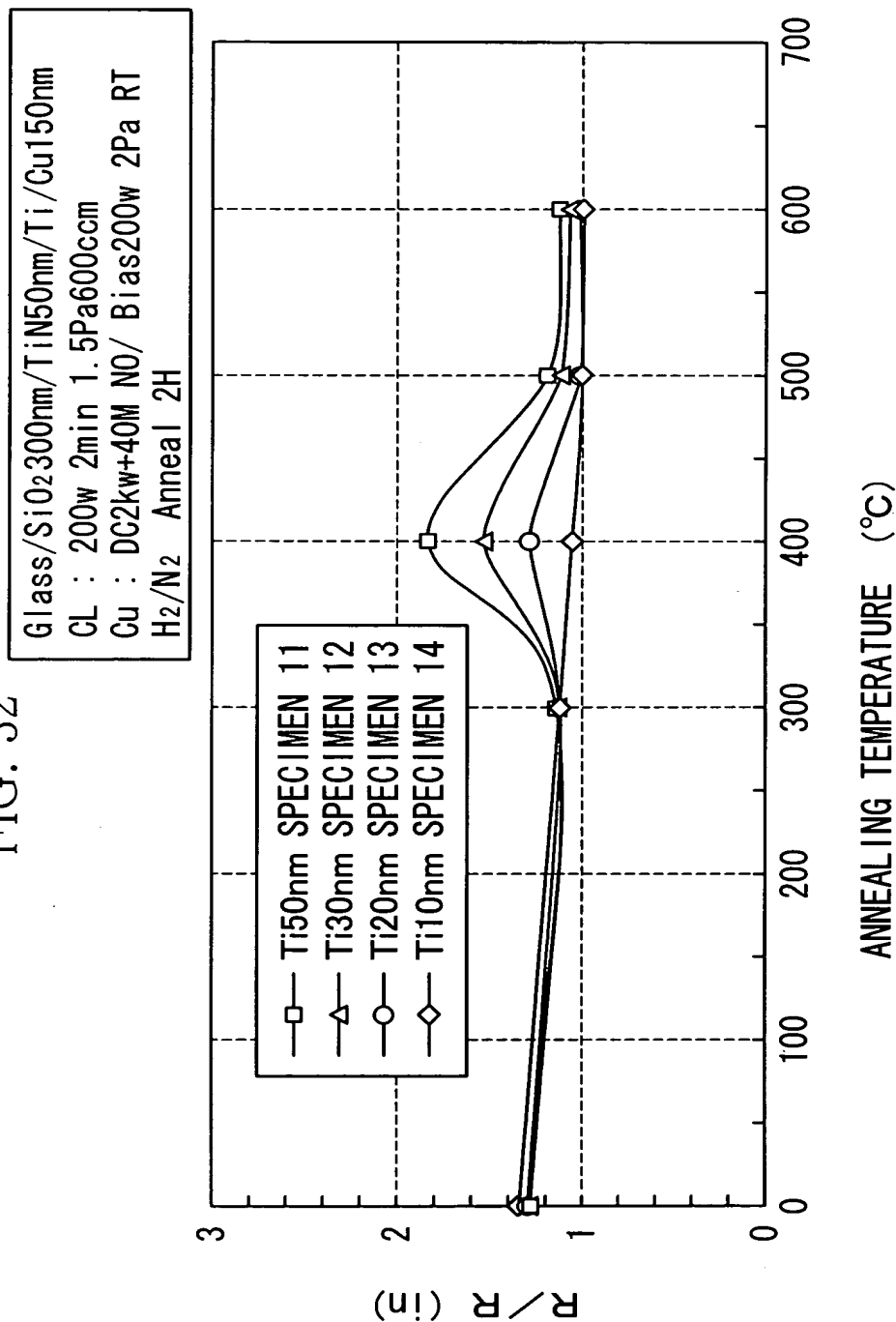


FIG. 33

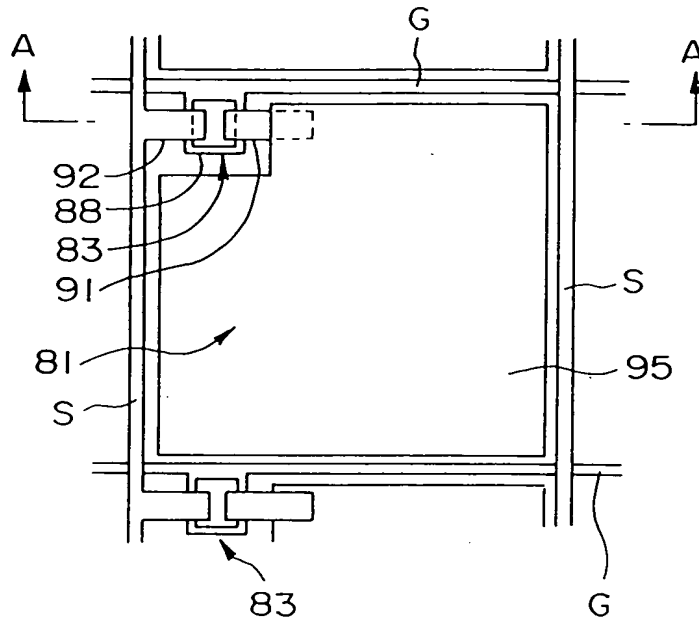


FIG. 34

